Silicon-containing polyimides as oxygen etch stop and dual dielectric coatings.

The use of silicon-containing polyimide as an oxygen etch barrier in a metal lift-off process and as an oxygen etch stop in the fabrication of multi-layer metal structures is described. In practice, a lift-off layer (12) is applied on a substrate (10), followed by a layer of silicon-containing polyimide (14) and a layer of photoresist (16). The photoresist is lithographically patterned, and the developed image is transferred into the silicon-containing polyimide layer with a reactive ion etch using a CF₄/O₂ gas mixture. The pattern is transferred to the lift-off layer in a reactive ion etch process using oxygen. Subsequent blanket metal evaporation (22) followed by removal of the lift-off stencil results in the desired metal pattern on the substrate. In an alternate embodiment, the silicon-containing polyimide can be doped with a photoactive compound reducing the need for a separate photoresist imaging layer on the top.
### EUROPEAN SEARCH REPORT

#### DOCUMENTS CONSIDERED TO BE RELEVANT

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#### TECHNICAL FIELDS SEARCHED (Int. Cl 4)

- H 01 L
- G 03 F

The present search report has been drawn up for all claims.

Place of search: THE HAGUE

Date of completion of the search: 17-08-1989

Examiner: GORI P.

**CATEGORY OF CITED DOCUMENTS**

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